

[Handwritten signature]

CANADIAN MAGNESITE MINES LIMITED

First Annual Report

For the Year Ended
NOVEMBER 30, 1963

CANADIAN MAGNESITE MINES LIMITED

SUITE 911, 159 BAY STREET
TORONTO 1, ONTARIO

* * *

OFFICERS

A. T. GRIFFIS	-	-	-	-	-	-	-	-	President
A. D. COSSAR	-	-	-	-	-	-	-	-	Vice-President
R. A. EAGLESON	-	-	-	-	-	-	-	-	Secretary-Treasurer

DIRECTORS

A. T. GRIFFIS
J. F. McOUAT

A. D. COSSAR
R. A. EAGLESON

JOAN BAIRD

CONSULTING ENGINEERS

WATTS, GRIFFIS AND McOUAT LIMITED

REGISTRAR AND TRANSFER AGENT

GUARANTY TRUST COMPANY OF CANADA
366 Bay Street, Toronto 1, Ontario

AUDITORS

McLEOD, DICKSON AND COMPANY
Chartered Accountants
75 Eglinton Avenue East
Toronto, Ontario

PRESIDENT'S REPORT

TO THE SHAREHOLDERS

CANADIAN MAGNESITE MINES LIMITED.

I am pleased to submit the First Annual Report of the Company, including financial statements covering the period from incorporation on November 13, 1962 to November 30, 1963.

In the 18 months since incorporation your Company has been successful in transforming a magnesite prospect, in which the industry had little or no interest, to the stage where its size and the quality of its potential products interest even the most conservative consumers in the trade.

Although the technical aspects of our work are reviewed in the accompanying engineering report, I would like to summarize the very considerable progress to-date.

1. Part of the magnesite zone has been drilled and an average grade of 24% acid soluble magnesia is indicated, with reasonable assurance of a 20 million ton reserve, minable by open-pit. The potential open-pit reserve of the entire zone may be from 80 to 100 million tons.
2. The development of an inexpensive physical method for concentration, to produce product grading 91% to 95% magnesium oxide on a "dead-burned" basis.
3. Initial investigation of a chemical process that has produced a final product grading better than 99% MgO. Preliminary cost estimates indicate the feasibility of the method for large scale production.
4. Market research studies by our own personnel and by an independent consultant have established an initial market potential of 50,000 tons a year for our product in refractories, in paper-making and in petro-chemicals.

The Company's plans for future development include a pilot plant operation designed to produce 300 tons of dead-burned product for refractory trials in the steel industry. Some of this pilot plant production will also be submitted to pulp producers to determine its acceptability in paper-making.

At the same time, negotiations for firm contracts and discussions on financing for commercial production will be continued.

The Company is adequately financed for this phase of development through a recent underwriting of 175,000 shares at \$1.75, and a loan of \$300,000, arranged with the Bankers' Trust Company of New York.

In conclusion, I would like to acknowledge the very substantial technical assistance we have received from the Department of Mines and Technical Surveys at Ottawa, and to express my appreciation to my fellow directors and to the shareholders for their continued support.

On behalf of the Board,

A. T. GRIFFIS, *President,*

CANADIAN MAGNESITE MINES LIMITED

May 11, 1964

CANADIAN MAGNESITE MINES LIMITED

BALANCE SHEET As at November 30, 1963

A s s e t s

CASH	\$ 20,064.84
DEMAND NOTE—4%, fully secured	70,000.00

MINING PROPERTIES—at cost:

59 patented mining claims under option and 10 unpatented mining claims purchased, all in the Districts of Cochrane and Temiskaming, Province of Ontario. Note 1.

Patented Claims:

Cash	\$ 8,000.00	
Shares—100,000 valued by the directors at 12.5¢ per share	12,500.00	\$ 20,500.00

Unpatented Claims:

Shares—500,000 valued by the directors at 10¢ per share (of which 250,000 shares have been donated back to the Company for its own uses). Note 2.	50,000.00	70,500.00
--	-----------	-----------

DEFERRED EXPENDITURE	102,527.09
----------------------------	------------

OTHER ASSETS

Expense advances	\$ 500.00	
Organization expense	2,771.88	3,271.88
		<u>\$ 266,363.81</u>

L i a b i l i t i e s

ACCOUNTS PAYABLE	\$ 13,858.81
------------------------	--------------

C A P I T A L

SHARE CAPITAL—notes 3 and 4:

Authorized—

5,000,000 shares of \$1.00 each.

Issued and fully paid—

600,000 shares for mining properties	\$ 600,000.00
Less: Discount	537,500.00

\$ 62,500.00

1,000,005 shares for cash	\$ 1,000,005.00
Less: Discount	810,000.00

\$ 190,005.00

1,600,005 shares	252,505.00
------------------------	------------

\$ 266,363.81

Approved on behalf of the Board:

A. D. COSSAR

JOAN BAIRD

Directors

Auditors' Report

To the Shareholders,
CANADIAN MAGNESITE MINES LIMITED.

We have examined the balance sheet of Canadian Magnesite Mines Limited as at November 30, 1963 and the statement of deferred expenditure from incorporation to that date and have received all the information and explanations that we have required. Our examination included a general review of the accounting procedures and such tests of accounting records and other supporting evidence as we considered necessary in the circumstances.

In our opinion, the accompanying balance sheet and statement of deferred expenditure present fairly the financial position of the Company as at November 30, 1963 and the results of its operations from incorporation to that date, in accordance with generally accepted accounting principles.

Toronto, Ontario.
March 17, 1964.

McLEOD, DICKSON & Co.
Chartered Accountants.

CANADIAN MAGNESITE MINES LIMITED

STATEMENT OF DEFERRED EXPENDITURE

From Incorporation to November 30, 1963

Exploration and Development

Diamond drilling	\$ 11,931.14
Samples and assays	3,113.74
Line cutting	318.00
Trenching	600.00
Equipment rental	244.00
Road survey	736.88
Field travel	2,668.29
Maps	679.14
Engineering	3,917.25
Mining licenses	200.00
Research and development	37,898.94
Consulting	11,800.00
Pilot plant engineering	4,610.98
Market survey	8,137.33

\$ 86,855.69

Administration

Bank charges and exchange	\$ 455.61
Legal and audit	909.40
Management	8,000.00
Miscellaneous	490.49
Office supplies	185.56
Printing	1,012.35
Registrar and transfer agent	585.75
Telephone and telegraph	524.43
Travel and promotion	6,018.20

\$ 18,181.79

Less: Interest earned 2,510.39

\$ 15,671.40

TOTAL DEFERRED EXPENDITURE \$ 102,527.09

NOTES TO FINANCIAL STATEMENTS

November 30, 1963

- Under agreements dated November 14, 1962 as amended and a further agreement dated March 16, 1964, the consideration payable in order to complete the purchase of the 59 patented claims and the 10 unpatented claims is as follows:

Patented claims:

Forthwith after the listing of the shares of the Company upon the Canadian Stock Exchange 342,500 shares valued by the directors, 180,000 shares at 25¢ per share, and 162,500 shares at 40¢ per share for a total valuation of \$110,000.

Unpatented claims:

Forthwith after the listing of the shares of the Company upon the Canadian Stock Exchange 250,000 shares.

- Of the 500,000 shares issued for the unpatented claims 250,000 have been donated back to the Company for its own uses and are held for the Company by a Trustee. It is the Company's intention to apply these shares in payment of the unpatented mining claims.

- By agreement dated as of the 16th day of March, 1964 between the Company and an Underwriter-Optionee, the Underwriter-Optionee has agreed to purchase 175,000 fully paid and non-assessable shares in the capital stock of the Company at a price of \$1.75 per share for a total consideration of \$306,250 to be taken up and paid for as follows:

Forthwith after the date that the shares are called for trading on the Canadian Stock Exchange (which date is hereinafter referred to as the "Date of Calling"), 58,334 shares for \$102,084.50;

Within one month of the Date of Calling, 58,333 shares for \$102,082.75; and

Within two months of the Date of Calling, 58,333 shares for \$102,082.75.

In consideration of the foregoing subscription the Company has granted to the Underwriter-Optionee the option to purchase the whole or any part of 600,000 fully paid and non-assessable shares in the capital stock of the Company at the prices and on the terms below set forth and subject to the further terms and conditions of the said agreement:

All or any part or parts of 200,000 shares at any time or times before October 1, 1964 at the price of \$1.75 per share;

Provided the option in the immediately preceding sub-paragraph is exercised in full, all or any part or parts of 200,000 shares at any time or times before November 1, 1964 at the price of \$2.00 per share; and

Provided the option in the immediately preceding sub-paragraph is exercised in full, all or any part or parts of 200,000 shares at any time or times before December 1, 1964 at the price of \$2.25 per share.

- The following options to purchase capital stock of the Company (granted to directors of the Company) were outstanding at July 31, 1963,—57,500 shares at \$1.00 per share up to and including July 13, 1965.

- The Company has entered into a loan agreement dated as of March 16th, 1964 whereunder the Company will borrow \$275,000. United States funds on or before June 30th, 1964, at 5½% interest repayable March 31st, 1965, or at any time prior thereto. The loan is to be secured by a registered first mortgage on the patented mining claims and securities purchased by the Company with cash on hand and with the proceeds of the underwriting agreement having an aggregate principal, market or discounted value, as the case may be, equal to the amount of the borrowing.

WATTS, GRIFFIS AND MCOUAT LIMITED
CONSULTING GEOLOGISTS AND ENGINEERS
SUITE 911 — 159 BAY STREET
TORONTO 1, CANADA

EMPIRE 4-6244

ENGINEERS' REPORT

May 11, 1964

TO THE DIRECTORS
CANADIAN MAGNESITE MINES LIMITED.

We submit herewith a Summary Report reviewing work-to-date on your property and on research directed toward product development.

Within a few months of starting work on the property, it became apparent that the deposits were large and of very consistent grade. At that time it became evident that the major effort during the initial stages of development should be directed toward research on recovery of high-grade products, and on an evaluation of markets and product specifications through personal contact with manufacturers and consumers of magnesia base refractories and chemicals.

WHAT IS MAGNESITE?

Magnesite refers literally to the naturally occurring mineral which is magnesium carbonate. However, common usage has applied it to two products: dead-burned magnesite and caustic-calcined magnesite. These products are, for the most part, magnesia (MgO), and are obtained by completely or lightly burning the magnesium carbonate to remove carbon dioxide.

USES OF MAGNESITE

The bulk of magnesite production is for refractory use in the steel and copper industries and in rotary kiln applications. The great merit of refractories of magnesite base is the ability to withstand basic slags and high temperatures. Magnesite is used in the form of bricks for lining furnaces and kilns and in grain form for furnace bottoms and maintenance of furnace hearths.

Magnesite is also used in making magnesium oxychloride and oxysulphate cements. These specialty cements are used for making high-quality concrete floors and certain types of wallboard.

Sulphite mill operators can use magnesia in the preparation of dissolving liquors for pulp production. This use is limited at present, but could grow rapidly in the future as new processes, now developed, are installed in the mills.

Lesser quantities are used in fertilizers, animal feed supplements, in the chemical industry as an alkali and in glass production.

MARKETS

The total magnesite market in Canada and the United States has varied from 600,000 to 800,000 tons annually in recent years, of which 50,000 to 60,000 tons is consumed in Canada. The bulk of this consumption is in the form of dead-burned magnesite with caustic-calcined magnesite forming the remainder.

Approximately 80% of the dead-burned magnesite produced is used by the steel industry, the bulk of which is located in Southern Ontario and the Northeastern United States.

Caustic-calcined magnesite is used mainly in the production of oxychloride cements at the present time. However, the newly developing market for magnesia in the pulp and paper industry may change this proportion. A major switch to magnesium bisulphite pulping by Canadian pulp producers could almost double the present Canadian magnesite consumption. The Eastern Canadian mills are located in a belt stretching from the north shore of the St. Lawrence River through to the Lakehead.

PROPERTY

The Canadian Magnesite property is well located to take advantage of the largest ultimate consumers—steel mills in Southern Ontario and the Northeastern United States, and pulp and paper mills in Northern Ontario and Canada generally. Mining rights are held covering 2,700 acres, seven miles south-southeast of Timmins, Ontario. This town is well supplied with hydro power, natural gas, rail and road connections and local labour.

PROPERTY DEVELOPMENT

Work on the property began in November, 1962 and has consisted of several phases carried out continuously since then.

The initial phase was a programme of geological mapping, sampling and diamond drilling. Eight holes were diamond drilled on sections located 400 feet apart. This work indicated that the zone drilled, 1,800 feet long with an average width of 500 feet, contains an average of 24% acid soluble MgO. There is a reasonable expectation that this part of the carbonate zone should contain a reserve of 20 million tons minable by open-pit methods.

The carbonate zone is known to extend on the surface for a length of 6,000 feet and to have a width of up to 1,000 feet. Bisecting this zone is a diabase dyke, averaging 100 feet in width which could be selectively mined. Thus, ample reserves of magnesite ore are indicated to meet future needs.

Physical Concentration

METALLURGICAL RESEARCH

During the initial phase, work on concentrating the crude ore was carried out by Lakefield Research of Canada Limited using diamond drill core. This preliminary work indicated that a product containing 91% MgO, in dead-burned form, could be easily obtained. The principal contaminant was iron. It was concluded that higher grades could be obtained by further studies of the ore and by extensive experimentation with concentrating methods.

To determine whether higher grades could be obtained, several representative tons of crude magnesite, obtained from the surface of the deposit, were shipped to the Department of Mines and Technical Surveys in Ottawa. Here the Mines Branch is conducting a continuing study of the crude ore, its concentration, and the physical properties of the dead-burned product. This comprehensive programme has indicated the possibility of recovering two grades of dead-burned product (using physical means of concentration); one with 91% MgO and the second with 95% MgO.

The Mines Branch has now undertaken a process development study on a larger scale than the initial work. This will materially assist with the layout and operation of a pilot plant.

Chemical Concentration

Initial studies of chemical methods of up-grading the crude ore have also been completed. Battelle Memorial Institute of Columbus, Ohio was commissioned to undertake an exploratory programme which was completed during August, 1963. Promising results from this study led to a second phase study which was reported in February, 1964. This work indicates the feasibility of making a very high-grade magnesia, grading 99% or better, by chemical concentration. Costs for this method are somewhat higher than estimated for concentration by physical means.

Although these studies are not being pursued further at this time, chemically concentrated magnesia is a product which merits further research at a later stage.

MARKET SURVEYS

All the potentially important magnesite consumers were contacted during the past year by your Company. At the same time, an independent market research firm conducted a preliminary study of the North-American magnesite market. It was generally concluded that sufficient markets could be developed to warrant development of the Timmins property.

Your magnesite, even in the raw state, contains very little calcium. Silica can be brought down to less than 1 per cent in the concentrate. Both calcium and silica are considered harmful in magnesia for refractories, and we have concluded that your magnesite should be a superior refractory.

The principal contaminant of the concentrates obtained during the work-to-date is iron oxide. This does not directly affect refractoriness. Moreover, iron tends to increase the specific gravity, a desirable feature for the furnace operator.

Preliminary burning tests on the products indicate a superior refractory, both as to temperature of failure and specific gravity.

PRICING AND FEASIBILITY

Carefully prepared preliminary engineering and cost estimates indicate that products comparable in grade and quality to that presently accepted by the industry can be made. We have concluded that a price

of \$50 per ton f.o.b., Timmins, can be obtained for the higher grade product. These estimates indicate that the Company would recoup its capital investment and realize substantial profits.

PILOT PLANT

The work completed to-date indicates the economic feasibility of bringing the property into production. Initial geological investigations, extensive metallurgical testing, market studies and cost estimates all point to a profitable operation. However, before this step can be taken, the process work must be verified at pilot plant scale and the products obtained given adequate trials in steel-making furnaces.

Funds have been obtained to carry out this phase and work is now underway. A contract has been let for mining 2,000 tons of crude ore. This will be crushed and shipped to the pilot plant which is located a few miles west of North Bay. This mill has been rented from Nova Beaucage Mines Ltd. and the minor modifications necessary are now being completed. Production of concentrates will begin in June and, after dead-burning at a custom facility, will be shipped in trial lots to several consumers in Canada and the United States.

Respectfully submitted,

WATTS, GRIFFIS & McOUAT LIMITED

ROSS D. LAWRENCE

Ross. D. Lawrence, P. Eng.